



FURTHER ADVANCING THE BLUE REVOLUTION INITIATIVE (FABRI)

**QUARTERLY PROGRESS REPORT NO. 3:
MARCH 15 – JUNE 14, 2012**

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The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Further Advancing the Blue Revolution Initiative Quarterly Report No. 3

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ACRONYMS

AfWA	African Water Association
AWW	Africa Water Week
AMCOW	African Ministers Council on Water
APS	Annual Program Statement
COTR	Contract Officers Technical Representative
CSR	Corporate Social Responsibility
EPA	Environmental Protection Agency
ETIC	Euphrates-Tigris Initiative for Cooperation
FABRI	Further Advancing the Blue Revolution
GIS	Geographical Information System
GWRI	Grand Water Research Institute, The Technion, Israel Institute of Technology
IAV	Institute of Agronomy and Veterinary Science Hassan II
ICARDA	International Centers for Agricultural Research in Dry Areas
ICBA	International Center for Biosaline Agriculture
IDA	International Desalination Association
IMU	Interim Management Unit
INRGREF	National Institute for Research in Rural Engineering, Water and Forestry
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
JICA	Japan International Cooperation Agency
JUST	Jordan University of Science and Technology
MEDRC	Middle East Desalination Research Center
MENA NWC	Middle East and North Africa Network of Water Centers of Excellence
NASA	National Aeronautics and Space Administration
NCARE	National Center for Agricultural Research and Extension
NRW	Non-Revenue Water
NWRC	National Water Research Center
OMEP	Office of Middle East Programs
ONEP	National Office of Potable Water
ORSAM	Middle Eastern Center for Strategic Studies
PR&D	Policy, Research and Design
PWA	Palestinian Water Authority
QEERI	Qatar Environment and Energy Research Institute
QNFSP	Qatar National Food Security Program
R&D	Research and Development
RFA	Request for Applications
RSS	Royal Scientific Society
SIWI	Stockholm International Water Institute
SQU	Sultan Qaboos University
USAID	U.S. Agency for International Development
USG	United States Government
USGS	United States Geological Survey
USU	Utah State University
WASH	Water, Sanitation and Hygiene
WATSAN	Water and Sanitation
WESI	Water and Environmental Studies Center, An Najah University
WLI	Water Livelihood Initiative

EXECUTIVE SUMMARY

The U. S. Agency for International Development's (USAID) Further Advancing the Blue Revolution Initiative (FABRI) is addressing critical water issues that are driving change in the Middle East and Africa, since water plays a key role in the political, economic and social lives of nations and people. FABRI is supporting the launching and establishment of a new regional water network called the Middle East and North Africa Network of Water Centers of Excellence (MENA NWC) to strengthen integrated water resources management programming, improve the long-term viability of water and sanitation service providers, rationalize water allocations and use, encourage collaboration among riparians in transboundary river basins, and raise USAID staff skills and Agency visibility in water and sanitation.

In June 2009, President Barack Obama delivered a speech in Cairo, Egypt, in which he stressed developing better relations with the Muslim world. He talked about the importance of developing centers of excellence in water, food security, climate change, and other disciplines. MENA NWC is a tangible outcome of that vision. Designed and launched by USAID, initially through the Advancing the Blue Revolution Initiative (ABRI) and now FABRI, the Network will address longstanding water issues in the region through research, policy, and outreach efforts.

Working through research partnerships, universities and research institutions in the Middle East, the Network will design and carry out research projects on water use efficiency and productivity, water and energy, non-conventional water, groundwater, and water and sanitation, in concert with governments, the private sector, and civil society organizations. Currently, 16 national research institutions and universities in Bahrain, Israel, Jordan, Morocco, Oman, Qatar, Tunisia, and West Bank/ Gaza—and four international research centers in Oman, Sri Lanka, Syria, and the United Arab Emirates—are actively participating. In addition, five major U.S. research universities are current partners: Utah State University, the University of Florida, the University of California at Davis, Texas A&M University, and the University of Nebraska.

In addition to the creation of a sustainable water network in MENA, FABRI will also address some of Africa's most critical water issues. While Africa has some of the world's greatest river systems, much of the population suffers from limited access to clean water, hygiene and sanitation services. FABRI will support water and sanitation providers in Africa that improves their financial, economic, and operating efficiency by exposing them to best practices in water and sanitation service provision.

FABRI will strengthen water resources programming in the Middle East and in Africa. Over its three year life, FABRI will build relationships with the private sector, between and among the scientific community, governments, universities, and research institutions, the private sector, and civil society. Relationship building and partnerships will be crucial to the success of the project. FABRI's emphasis on uniting a geographically dispersed group of individuals and institutions working in the water sector supports USAID's commitment to strengthen regional platforms, foster transboundary water cooperation, and improve utility performance and financial viability.

Program Goals

FABRI has six primary objectives

- **Establish an operational Middle East and North Africa Network of Centers of Excellence (MENA NWC).** FABRI will support the creation of the MENA NWC by acting as the Interim Management Unit until a Secretariat is established. The initiative will establish MENA NWC organization, leadership, and finances, as well as manage collaborative, technical, and capacity-building activities via Policy, Research, and Development (PR&D) Grants. Through the MENA

NWC, FABRI aims to integrate research and development capacity in the member Centers with the development and dissemination of applied technologies and practices for innovative approaches, systems, and technologies to address water issues important to the region. An important piece of this work will be in developing an interactive website and sustainable knowledge management tools to support the sustainability of the Network.

- **Strengthen Integrated Water Resources Management Programming.** FABRI will strengthen the legal and regulatory framework for IWRM and implement methodologies to improve and promote the efficient use of water resources through the MENA NWC IWRM Thematic Partnership.
- **Access to Clean Water and Sanitation Improved in Target African and Middle Eastern Countries.** FABRI aims to strengthen the performance of water and sanitation service providers by working with regional “platforms” and associations. The goal is to provide them with innovative and tangible support to improve financial, economic, and operating efficiency.
- **Strengthen Research and Development Capacities in Irrigation, Groundwater Management, and Drought Risk Assessment and Mitigation.** FABRI will work with a MENA NWC Thematic Partnership to identify the most promising and regionally-relevant technologies and techniques for efficient, productive use of water in agriculture; engage the leading experts in these technologies to transfer knowledge to MENA NWC institutions; and develop and present outreach activities in target countries to encourage government engagement and private sector partnerships around the most successful approaches.
- **Strengthen Transboundary Water Cooperation in Key River Basins.** FABRI will conduct an analysis of transboundary cooperation approaches and apply study findings to the Tigris-Euphrates basin. Results will be used to identify, design and implement one or two pilot projects.
- **Enhance Technical and Outreach Capacity of USAID Staff in Water and Sanitation Programming.** FABRI will strengthen USAID staff capacity in this area by testing and amending the WASH training modules developed under ABRI.

1. INTRODUCTION

Water plays a pivotal role in the political, economic and social lives of nations and people. Many countries, including those in the Middle East and Africa, are facing common water challenges- drought, inefficient agricultural water use, groundwater management, inadequate or poor quality water supply, weak or absent mechanisms for sharing transboundary water, etc. Such challenges can lead to conflict within communities and among countries, as well as have negative health, financial and social impacts on populations.

To help respond to these regional water challenges, FABRI will provide technical support to USAID's Middle East and Africa bureaus, fulfilling all requests at the highest technical standards. In this capacity, FABRI will launch and establish a new regional water network called the Middle East and North Africa Network of Water Centers of Excellence (MENA NWC), strengthen integrated water resources management programming, improve the long-term viability of water and sanitation service providers, rationalize water allocations and use, encourage collaboration among riparians in transboundary river basins, and raise USAID staff skills and Agency visibility in water and sanitation.

Partnerships will form the foundation of all aspects of this initiative. FABRI develops partnerships—between and among the scientific community, governments, universities and research institutions, the private sector, and civil society—to achieve the project's goals and to ensure that the water sector in the Middle East and Africa is capable of sustaining, and building on, those achievements after FABRI has closed. We are forging intellectual and financial partnerships among the water sector's major players to create an integrated process that spans the identification and design of new approaches and technologies to their production and adoption. Investments and advances in the water sector will improve economic output, agricultural returns, and public health to ease economic burdens and alleviate human suffering.

FABRI's core result will be the launch of the Middle East and North Africa Network of Water Centers (MENA NWC). This initiative is an outcome of President Obama's call to establish Centers of Excellence in the Muslim World during his June 2009 "New Beginnings" speech in Cairo. It has also been mentioned in Secretary Clinton's speeches for World Water Day in 2010 and 2011. MENA NWC will link technical institutions across the region to work together and with outside counterpart institutions on critical water challenges. The Network will strive to foster partnerships; build and exchange regional science and technology capacity to improve water resources planning and management; and develop and disseminate policy tools and technical and management interventions that expand water supply, manage demand, and dramatically increase its efficient and productive use.

A network of cooperating institutions will facilitate collaborative activities, including competitive grants programs, capacity building, institutional twinnings, exchanges, fellowships, communications, and knowledge management. The Network will be the main vehicle for FABRI's goal to strengthen the water sector in the Middle East and North Africa.

Additionally, FABRI will support innovative WASH activities in Africa, focusing on opportunities for entrepreneurs to provide water and sanitation services where the public sector has been unsuccessful, and encouraging sustainability through affordable but profitable services. FABRI will provide institutional support to regional associations, test and share successful approaches in Non-Revenue Water, and work on national and local levels to enhance sanitation programs throughout Africa.

FABRI's third quarterly report outlines the initiative's achievements and plans to build regional capacity to address urgent water challenges and develop sound, coordinated actions in partnership with various actors from the water sector in the Middle East and Africa. It highlights the actions since March 15 through June 14, 2012. Major actions and achievements during this third quarter of implementation include the following:

- ***Founders Committee Planning Underway.*** FABRI drafted roles and responsibilities for both the Founders Committee and Board of Directors, procedures for the Founders Committee, and Terms of Reference for members of the Founders Committee.
- ***Private Sector Mapping of Corporations in Jordan Completed.*** FABRI completed the private sector mapping exercise in Jordan. FABRI surveyed more than 40 private corporations and conducted interviews with 14 companies in Jordan to determine their interest in collaborating in and/or financing activities of MENA NWC. The companies included water utilities and operators, industry, real estate, and investors. A number of private sector partners expressed specific interest in MENA NWC research activities. USAID and FABRI met with seven of these companies in May. The companies expressed interest in connecting with MENA NWC research activities focused on controlling water losses, energy efficiency, sludge management, water quality, and non-revenue water. Six of the companies visited are prepared to participate with researchers from the Centers in problem formulation and conduct of the research.
- ***Field Visits to Participating Centers completed.*** Two teams visited participating Centers and other key MENA NWC partners and stakeholders in the MENA region, including private sector firms, ministries, USAID missions, and U.S. embassies, from April 28 to May 9, 2012. The teams updated Centers on the status of the grants program, including anticipated changes in procedures and schedule for proposals and awards, and discussed the delay in the application process.
- ***MENA NWC Policy, Research, and Development Grants Program modified.*** The teams that visited the Centers in April and May 2012 completed a draft report on the findings of the visits, including a synthesis of the most promising research topics and teams. Based on feedback from MENA NWC Centers and stakeholders, the report lays out a number of action items, particularly simplifying the requirements and application process for Policy, Research and Development Grants.
- ***Priority Research Topic identified.*** FABRI will invite Centers to submit proposals on specific topics. USAID and FABRI selected these topics based on Concept Notes submitted by the Centers and discussions with the researchers during this trip.
- ***Draft internal portal developed.*** FABRI designed and populated a Google site to allow MENA NWC stakeholders to exchange information about the Network in a secure way. The site is an internal portal for the Network. Currently the site contains contact information and instructions on how to apply for policy, research and development grants. Once FABRI obtains approval from USAID, the site will go live to MENA NWC participants and other relevant stakeholders.
- ***FABRI's Work in Africa Initiated.*** During the third quarter, FABRI was very actively engaged in implementation activities under Result 3: Strengthen the Performance of Water and Sanitation Providers. The overarching goal of this result is to provide regional water associations in Africa with innovative and tangible support to improve financial, economic, and operating efficiency. During this period, FABRI chaired Theme 1: Water and Sanitation during this year's Africa Water Week; initiated the strategic business planning effort with AfWA; designed a 3-day Non-Revenue Water workshop for managing directors and NRW managers from 11 utilities in East, Southern and Central Africa; convened a meeting with Young Water Professionals to discuss the initiation of a grant fund

to support NRW and Sanitation programs; and continued to provide technical assistance on communications and knowledge management to AfWA headquarters. FABRI has also designed a flyer (English and French versions) on the Africa program that was distributed at the AWW4 meeting in Cairo

2. PROGRESS DURING THE QUARTER

RESULT 1: MIDDLE EAST AND NORTH AFRICA NETWORK OF CENTERS OF EXCELLENCE ESTABLISHED AND OPERATING

Requirement 1.1: Support Establishment of MENA NWC

Founders Committee Planning Underway. FABRI drafted roles and responsibilities for both the Founders Committee and Board of Directors, procedures for the Founders Committee, and Terms of Reference for members of the Founders Committee.

Private Sector Mapping of Corporations in Jordan Completed. FABRI completed the private sector mapping exercise in Jordan. FABRI surveyed more than 30 private corporations in Jordan to determine their interest in collaborating in and or financing activities of MENA NWC. The companies included water utilities and operators, industry, real estate, and investors. A number of private sector partners expressed specific interest in MENA NWC research activities. USAID and FABRI met with seven of these companies in May. The companies expressed interest in connecting with MENA NWC research activities focused on controlling water losses, energy efficiency, sludge management, water quality, and non-revenue water. Six of the companies visited are prepared to participate with researchers from the Centers in problem formulation and conduct of the research.

Draft Internal Portal Created. FABRI designed and populated a Google site to allow MENA NWC stakeholders to exchange information about the Network in a secure way. The site is an internal portal for the Network. Currently the site contains contact information and instructions on how to apply for policy, research and development grants.

Planned Activities for the Fourth Quarter:

- Initiate work on the MENA NWC business plan for USAID review.
- Facilitate engagement between private sector partners and research teams.
- Plan the first meeting of Founders Committee to be held in October or November 2012.
- Put MENA NWC portal/website online.

Requirement 1.2: Design a Trust Fund or Endowment to Help Ensure the Sustainability of the Network

The Endowment Fund will be a priority financing mechanism of the Network and will serve to strengthen its long-term sustainability. Its capital will be invested for the long term with only a portion of its interest available to finance administration and the core activities of the Network's purpose.

There were no Requirement 1.2 activities during the third quarter.

Requirement 1.3: Support Operations of the MENA NWC Secretariat

During the period, the FABRI COP has also served as Acting Director of the Network's Secretariat. He has been in regular and frequent communication with participating Centers. In addition, FABRI is proceeding with one key component of the Network: the five-year business plan. The business plan will

set a course for the Network's financial sustainability by determining its anticipated expenditures and revenue stream.

Planned Activities for the Fourth Quarter:

- Development of the MENA NWC business plan.

Requirement 1.4: MENA NWC Founders Committee Established

The Founders Committee is critical to the establishment and success of MENA NWC. It will design the Network's governance and financial structures, oversee the annual budget and technical program, guide the legal registration of the Network, nominate the Board of Directors and ensure a smooth transition to the operational phase. During the period, FABRI worked closely with the chair of the Nominating Committee to review the more than 40 resumes it had received from candidates. They reduced that number to 14. Then, FABRI worked with USAID to reduce the number from 14 to seven. The Founders Committee will consist of seven members with diverse skill sets, experiences and nationalities. Its composition is expected to include global/regional water experts, past or present senior government officials, private sector business entrepreneurs or executives, research institution leaders and regional association/civil society organization leaders.

Planned Activities for the Fourth Quarter:

The final candidates will be shared with the members of the Nominating Committee and with the Centers for no objection.

Requirement 1.5: Technical, Demonstration Activities of the Network Launched

Field Visits to Participating Centers Completed. Two teams visited participating Centers and other key MENA NWC partners and stakeholders in the MENA region, including private sector firms, ministries, USAID missions, and U.S. embassies, from April 28 to May 9, 2012. The teams updated Centers on the status of the grants program, including anticipated changes in procedures and schedule for proposals and awards, and discussed the delay in the application process. The teams and Centers/stakeholders visited are summarized in Table 1 below.

The teams clarified the specifics of the research program and stressed the fact that the most successful applied research projects will have more direct consultation with governments, policy makers, utilities, the private sector, and/or civil society organizations in framing the research problem statements and actually conducting the research. The teams also identified the need for Centers to have more genuine partnerships with counterparts at other Centers.

Table 1
Summary of Team 1 and Team 2 Visits with Centers and Stakeholders

Team 1	
<ul style="list-style-type: none"> • Jill Shaunfield, Bureau for Near Eastern Affairs, Department of State, Team Leader • Scott Christiansen, USAID/ME/TS, Senior Agricultural Development Advisor and Activity Manager for the Middle East Water and Livelihoods Initiative (WLI) • Ken Ludwa, FABRI Grants Manager 	
Countries	Visited Research Centers/Stakeholders
United Arab Emirates	International Center for Biosaline Agriculture (ICBA)
Qatar	Qatar National Food Security Program (QNFSP)
	Qatar Environment and Energy Research Institute (QEERI)
	US Embassy Doha
Israel	US Embassy Tel Aviv
	The Technion – Israel Institute of Technology
	Israeli Water Authority
	USAID/West Bank and Gaza
West Bank	Water and Livelihoods Initiative (WLI) benchmark sites
	National Agriculture Research Center
	An Najah University
Oman	Middle East Desalination Research Center (MEDRC)
	US Embassy Muscat
	Sultan Qaboos University (SQU)

Team 2	
<ul style="list-style-type: none"> • Mark Peters, USAID OMEP Regional Water Advisor, Cairo, Team Leader • Clarissa Hageman, USAID ME/TS, AAAS Fellow • Mac McKee, FABRI Research and Development Lead and director of the Utah Water Research Laboratory at Utah State University 	
Countries	Visited Research Centers/Stakeholders
Jordan	Arab Countries Water Utilities Association (ACWUA)
	USAID/Jordan
	Jordan University for Science and Technology (JUST)
	National Center for Agriculture Research and Extension (NCARE)
	Ministry of Water and Irrigation (MWI)

	University of Jordan (JU)
	Royal Scientific Society (RSS)
	Consolidated Contractors Company (CCC) – Private Sector
	Engicon – Private Sector
	Jordan District Energy/Abdali – Private Sector
	Kawar Energy – Private Sector
	Miyahuna – Private Sector
	Nuqul – Private Sector
	Aqaba Water Company (AWC) – Private Sector
Tunisia	US Embassy Tunis
	National Research Institute for Rural Engineering, Water, & Forestry (INRGREF)
Morocco	USAID/Morocco
	National Office of Potable Water (ONEP)

Policy, Research, and Development Grants Program Modified. The teams that visited the Centers in April and May 2012 completed a draft report on the findings of the visits, including a synthesis of the most promising research topics and teams. Based on feedback from MENA NWC Centers and stakeholders, the report lays out a number of action items, particularly simplifying the requirements and application process for Policy, Research and Development Grants. These changes include the following:

- The Policy, Research and Development Grants program will accept proposals through an Annual Program Statement (APS), which will remain open continuously for one year.
- Concept Notes will no longer be required.
- The budget limit per project will be \$750,000, divided according to Centers' effort on the project.
- The Grants program will encourage but not mandate engagement with governments and the private sector.
- FABRI will relax the partnering requirement so that projects should generally include Centers from at least two countries, or one international Center and one national Center. In rare circumstances and with strong justification, FABRI may make awards to individual Centers
- The Policy, Research and Development Grants program will encourage U.S. participation from the five current FABRI university partners, but will also allow participation from other U.S. institutions.
- FABRI will create a separate grant track for the MENA NWC Water and Sanitation Thematic Partnership, designed to support utilities in improving service delivery.

Priority Research Topics Identified. FABRI will invite Centers to submit proposals on specific topics, listed below. USAID and FABRI selected these topics based on Concept Notes submitted by the Centers and discussions with the researchers during this trip. Each of these topics meets all of the following criteria:

- Fosters partnership among Centers
- Has scientific merit

- Builds technical and management capacity
- Advances the thinking on the five Thematic Partnerships
- Is realistic within grant program time and budget constraints
- Addresses core regional challenges

The topics for which proposals may be invited include:

- Irrigation technology and agricultural water use efficiency
- Satellite and remote sensing technology for agricultural water management
- Analysis of agricultural yield gaps between controlled experimental conditions and "real-world" conditions
- Managed aquifer recharge using treated wastewater
- Control of saline water intrusion in aquifers using treated wastewater
- Groundwater recharge
- Re-use of treated wastewater in agriculture
- Advanced wastewater treatment for re-use
- Desalination operation under red tide conditions
- Desalination policy
- Biofouling-resistant nanocomposite (BRN) membranes
- Renewable and decentralized energy opportunities in water and wastewater systems
- Modeling the food-water-energy nexus to inform food and water production decisions
- Re-use of municipal wastewater biosolids for energy production and nutrient recovery

Concept Notes Submitted. Cumulatively, participating Centers have submitted more than 25 Seed Fund applications and Concept Notes on a wide variety of research topics.

Planned Activities for the Fourth Quarter:

- Issue Annual Program Statement.
- Begin accepting proposals.
- Evaluate proposals and award grants.
- In conjunction with USAID Partnerships for Enhanced Engagement in Research (PEER), hold a research project design and proposal writing workshop.

Requirement 1.6: Network Strengthening through Private Sector Participation

In the last quarter FABRI completed a mapping exercise to identify Jordanian private sector companies and other groups that would be interested in working with the Network.

The mapping exercise provides an overview of private sector landscape in Jordan and the potential of these firms supporting the Network. This exercise gives baseline information on existing business operational challenges related to water and energy, areas of research interest, incentives for participation in MENA NWC and potential support that can be provided to the Network through corporate social responsibility (CSR) funds and other in-kind contributions. This information allows for a coherent and effective approach for establishing alliances and partnerships with the private sector in Jordan.

In March 2012, FABRI completed a draft report of the private sector mapping activity for Jordan called, "Jordan: Assessing Interests and Opportunities for Private Sector Partnership with the MENA NWC." The report documents findings, conclusions and recommends next steps.

FABRI identified 28 companies for the mapping exercise. Fourteen companies agreed to participate. During the FABRI team's visit to Jordan in May 2012, seven companies were selected to meet with the team based on their indicated levels of interest during the mapping exercise and the assessed high potential level for their participation in MENA NWC.

Participants in the private sector mapping activity in Jordan included the following:

- Arab Potash Company
- Jordan Energy and Mining Limited
- Nuqul Group
- Sayegh Group
- HSBC Bank
- Abdali Investment & Development Company
- Kawar Energy
- Saraya Aqaba
- Miyahuna
- EngiCon
- DHL
- Consolidated Contractors Co.
- Royal Jordanian
- Index
- Company

After completing the interviews with the private sector groups, FABRI updated the mapping list to include a more accurate reading of these entities' actual levels of interest and specific areas of research interest for partnerships with the Network. This information will comprise the basis for the private sector database that FABRI will design in the fourth quarter.

Many of the firms interested in partnering with the Network shared the same challenges: current operational challenges related to high operational water and energy costs, water quality and availability issues. In few cases, the motive for research was internal management policy that encourages innovation and research, management interest in building internal staff capacity, and interest in commercialization of technology. The table below outlines each company's research area interest.

Table 2
Jordanian Companies Visited

No.	Company	Sector	Indicated Level of Interest	Areas of Research Interest
1	Arab Potash Company	Mining Sector	High	<ul style="list-style-type: none"> • Water treatment, energy efficiency and conservation, reuse of water and wastewater,

				desalination, and general process improvement and development.
2	Jordan Energy and Mining Limited	Mining Sector	High	<ul style="list-style-type: none"> Optimization of water quantities that need to be used for cooling purposes at the oil shale mining plant. Offsetting the carbon impact on air in the project area.
3	Nuqul Group	Industrial Sector	High	<ul style="list-style-type: none"> Research on any area related to reducing water consumption at the paper mills, in Jordan and/or Egypt.
4	Sayegh Group	Industrial Sector	High	<ul style="list-style-type: none"> Energy efficiency issues at its paints factory and canning factory. Wastewater is also an issue for the paints factory in terms of the produced quality of wastewater and the treatment requirements since it contains heavy metals and has high COD and BOD levels.
5	Abdali Investment & Development Company	Real Estate sector	High	<ul style="list-style-type: none"> Researching ways to reduce high scaling of the piping system at the project and also reducing the amount of chemicals that need to be used to inhibit corrosion and scaling.
6	Kawar Energy	Investment group	High	<ul style="list-style-type: none"> Any water/renewable energy research and technology, innovation, development and adaptation. Commercialization of technology is also of interest.
7	Miyahuna	Water Utilities/ Operators	High	<ul style="list-style-type: none"> Evaluation of the current treatment process at Zai treatment plant, new desalination technologies, non-revenue water reduction, meters technology/adaptation for continuous water supply.
8	Engicon	Water Utilities/ Operators	High	Water loss reduction in municipal water supply, and energy efficiency in water utilities, desalination, and wastewater related issues and technologies, sludge reduction technologies.
9	Consolidated Contractors Co.	Water Utilities/ Operators	High	Research on As Samra Wastewater Treatment plant on aspects related to energy consumption and efficiency, chemicals' utilization, and minimization of sludge.
10	Index	Water Utilities/ Operators	High	Research and development of new technologies for water, wastewater and grey water treatment systems, specifically those that can be utilized commercially and residentially in Jordan.

Planned Activities for the Fourth Quarter:

- Complete and distribute the final report.
- Create a private sector database for eventual use by MENA NWC.

RESULT 2: INTEGRATED WATER RESOURCES MANAGEMENT PROGRAMMING STRENGTHENED

There were no Result 2 activities in the second quarter. FABRI will implement Result 2, IWRM Strengthening through MENA NWC research projects.

Planned Activities for the Fourth Quarter:

- FABRI will solicit proposals for Policy, Research, and Development (PR&D) Grants to undertake IWRM research, pilot projects, policy development, technical assistance, training, and knowledge transfer activities.

RESULT 3: ACCESS TO CLEAN WATER AND SANITATION IMPROVED IN TARGET COUNTRIES

During the third quarter, FABRI worked closely with both the African Water Association (AfWA), headquartered in Abidjan, Cote d'Ivoire, and with the African Ministers Council on Water (AMCOW) as a lead convener of Africa Water Week in May in Cairo.

Requirement 3.1: Strengthen the Performance of Water and Sanitation Service Providers

Non-Revenue Water Program Designed and Launched. During the third quarter, FABRI convened and facilitated a 3-day planning session with the AfWA Secretary General and three members of the AfWA Scientific and Technical Council to design the USAID/FABRI & AfWA Non-Revenue Water program. The meetings were held 26-28 March in Bethesda, Maryland. The results of the meeting are summarized below:

- Agreed on vision and overall scope of the NRW program.
- Agreed to establish an AfWA Task Force on Non-Revenue Water to design and monitor the rollout of the NRW program.
- Selected 25 utilities from 20 countries to participate in the NRW program.
- Drafted agendas for the initiation of the Task Force and for the Nairobi Non-Revenue Water Reduction Program in Africa: Phase 1 Diagnostic Workshop.

The FABRI chief of party and a TRG facilitator met with Nairobi City Water and Sanitation Company and AfWA Secretary General to finalize local arrangements for the NRW workshop scheduled for the week of 18 June 2012.

AfWA Business Planning Launched. During the third quarter, FABRI initiated the Strategic Business Planning process with AfWA by convening a 2-day AfWA Executive Board Meeting work session in Cairo. The expected outcome of this activity will be the development of a five-year strategic business plan. The effort is being led by Philip Giantris of Valu Add Management Services.

- The Executive Board Meeting work session objectives included:
 - Orient the Executive Board to the Business Planning Process to be followed and the nature of the final output.
 - Open a discussion around the existing Vision and Mission Statements of the Association and the views of the current Executive Board as to their applicability in the current context.
 - Review and open a discussion around the responses to the Member Survey as indicators of the values and directions the members hold with regard to the Association.
 - Receive/document brief attributes as inputs to a revised Vision Statement.
 - Receive/document brief attributes as inputs to a revised Mission Statement.
 - Tentatively agree on a protocol for member engagement in the Business Planning Process.
 - Agree on an initial schedule for proceeding to complete the Strategic Business Plan.

Communications Requirements Identified. In April 2012, the project Information Specialist, traveled to AfWA headquarters to discuss communications and knowledge management with a special emphasis on the redesign of AfWA's website.

Planned Activities for the Fourth Quarter:

- Conduct the start-up meeting for the AfWA STC Non-Revenue Water Task Force in Nairobi on 19 June.
- Conduct the three-day Non-Revenue Water Reduction Program in Africa: Phase 1 Diagnostic Workshop for East Africa utility partners.
- Prepare for the second delivery of the Non-Revenue Water Reduction Program in Africa: Phase 1 Diagnostic Workshop to be delivered in West Africa in late October, 2012.
- Design a newsletter for utilities on NRW topics. FABRI will design the prototype and first issue and then turn it over to AfWA to continue.
- Design and deliver a two to three day AfWA communications planning workshop with member utilities' communications staff. Objective of the meeting is to develop a strategic plan for how AfWA can better support member utilities in their outreach and communications programs.

Requirement 3.2: Improve the Operating Environment for Water and Sanitation Service Providers

In February, AMCOW named FABRI's chief of party as the chair of Theme 1: Water and Sanitation for this year's Africa Water Week 4, held 14-18 May in Cairo. FABRI organized 11 sessions that were delivered during Africa Water Week 4 (AWW4). Approximately 1000 delegates from around the world attended this year's AWW4. To prepare for Theme 1, FABRI organized and facilitated a one-day co-conveners meeting at the WSP offices in the World Bank on April 18. The meeting's purpose was to prepare for AWW4. Outcomes included a review of Theme 1's overall approach, discussion of session descriptions and designs, final agreement on co-organizers and presenters, and agreement on schedules and submissions of material for the AWW4.

- Attendees included the Executive Secretary of AMCOW and representatives from Sanitation and Water for All (SWA); Water and Sanitation for Africa (WSA); Bill and Melinda Gates Foundation; Sustainable Sanitation Alliance (SuSanA); UNDP Water Governance Facility; USAID/Office of Health; and the Water and Sanitation Program (WSP) – Africa.

In the third quarter, FABRI designed a flyer on FABRI's Africa Program (in French and English) to be distributed during Africa Water Week # 4 in Cairo and the NRW workshop in Nairobi.

Planned Activities for the Fourth Quarter:

- Compile and circulate all of the session materials from the 11 Water and Sanitation sessions held in Cairo – distribute to all presenters and send to AMCOW to post on their website.

Requirement 3.3: Improve the Financial Sustainability of the Water and Sanitation Sector

The USAID Africa Manager and the FABRI chief of party discuss implementing this requirement through efforts in non-revenue water and sanitation. Specifically, FABRI may focus on strengthening the sustainability of water utilities through the development of performance improvement plans to reduce physical and commercial losses and the preparation of investment plans for utilities that enable them to raise funds for capital improvements.

Planned Activities for Fourth Quarter:

- Work on Requirement 3.3 will not begin until as later quarter, after the utility audits are complete.

RESULT 4: RESEARCH AND DEVELOPMENT CAPACITIES IN IRRIGATION, GROUNDWATER MANAGEMENT, AND DROUGHT RISK ASSESSMENT AND MITIGATION STRENGTHENED

Requirement 4.1: Conduct Identification and Analysis of U.S., Regional, and International Water Programs Aimed at Promoting Efficient, Productive Use of Water in Agriculture in the MENA Region

There were no Result 4 activities in the third quarter. FABRI will implement Result 4, Strengthening Research and Development Capacities in Irrigation, Groundwater Management, and Drought Risk Assessment and Mitigation, through MENA NWC research projects.

Planned Activities for the Fourth Quarter:

- FABRI will solicit proposals for Policy, Research, and Development (PR&D) Grants to identify and share lessons learned and best practices for increasing the efficient, productive use of water in agriculture.

RESULT 5: TRANSBOUNDARY WATER COOPERATION STRENGTHENED IN KEY RIVER BASINS

Requirement 5.1: Conduct analysis of U.S. and regional transboundary water cooperation programs, with a focus on the Euphrates, Tigris, and Nile basins

FABRI developed a scope of work for an assessment of regional transboundary water cooperation programs that will be conducted by Oregon State University's Program in Water Conflict Management and Cooperation led by Prof. Aaron Wolf. The Program houses the Transboundary Freshwater Dispute

Database (TFDD), the largest collection of information on transboundary conflict and cooperation in the world. Faculty at OSU have extensive experience in culling the world's experience in cooperating across international boundaries for focused analytic studies.

FABRI's transboundary efforts begin with a careful analysis of U.S. and regional transboundary programs and interventions to reveal which ones made the greatest contribution to promoting effective transboundary cooperation. This assessment will:

- Provide a focal point for valuable conversations among riparians and donors about the extent and nature of transboundary cooperation;
- Identify key parties and approaches;
- Inform and guide the design of a pilot project in the Tigris-Euphrates basin under Requirement 5.5; and
- Confirm USAID's commitment to foster collaboration and reduce water conflicts in transboundary contexts in the Middle East.

The Program in Water Conflict Management and Cooperation at Oregon State University will carry out the assessment. The Program houses the Transboundary Freshwater Dispute Database (TFDD), the largest collection of information on transboundary conflict and cooperation in the world. Faculty at OSU have extensive experience in culling the world's experience in cooperating across international boundaries for focused analytic studies.

OSU's Program in Water Conflict Management and Cooperation, under direct supervision of the FABRI chief of party and with the support of regional experts, will prepare a report that assesses the recent history of collaborative transboundary water projects to determine those that provide the most appropriate lessons for the current situation on the Tigris-Euphrates basin. Those lessons will in turn inform the design of a pilot project (Requirement 5.5).

The OSU Program in Water Conflict Management will perform the following tasks:

- *Initial Identification.* Cull from the TFDD a database of all transboundary water resources projects over the last decade that have multinational participation, either official or unofficial;
- *Initial Filter.* Refine the database to include only those projects with a design most applicable to the current setting in the Tigris-Euphrates basin. Filtering criteria include:
 - The absence of formal, diplomatic relations between or among the riparian countries
 - The inclusion of non-official, or Track II stakeholders in project design and implementation
 - Funding exclusively or primarily from outside sources, for example donor, project, or NGO
 - Project duration of no more than three years
 - Project design to include at least the possibility of enhancing hydropolitical relations
- *Project Research and Data Organization.* Research details of the most relevant project and organize each transboundary water project into a spreadsheet, listing the project name, participating countries, level of cooperation, type of cooperation, principal issues, date, description and source.

- *Case Study Selection.* Select 10-12 case studies that would have direct implications for a FABRI-funded pilot project in the Tigris-Euphrates basin. The projects should be selected based on the above filtering criteria. Explore each case study in depth, describing its successes, challenges, lessons, and implications.
- *Interviews.* Contact by phone, email, and in person those involved in these and similar case studies for details implementation and the “story behind the story.” Include two trips to Washington, D.C. to interview State Department and USAID officials and meet with implementers.
- *Summary Report.* Develop findings into a summary report with lessons learned for similar basins, and including design options for a pilot project. Provide a presentation to USAID/ME and USAID/E3/Water.

Planned Activities for Fourth Quarter:

Oregon State University will initiate the assessment with in-person and telephone interviews with hands-on experience designing, implementing, and funding transboundary water efforts.

RESULT 6: TECHNICAL AND OUTREACH CAPACITY OF USAID STAFF IN WATER AND SANITATION PROGRAMMING ENHANCED

Requirement 6.2: Increase USAID’s visibility and outreach on water issues

FABRI proposed a side session at the August 2012 World Water Week in Stockholm. The session was accepted by the Stockholm International Water Institute.

Planned Activities for Fourth Quarter:

- Design and hold the August session at World Water Week

3. PROJECT MANAGEMENT

The period of performance for the FABRI task order is September 15, 2011 through September 29, 2014. FABRI has received \$10,003,067 in obligated funds (\$7,998,067 from the Middle East Bureau and \$2,005,000 from the Africa Bureau). This constitutes 50% of the \$20,000,000 contract ceiling. FABRI has spent \$1,293,264 as of May 31, 2012, which represents approximately 13% of the current obligation.

During this period FABRI has continued to ramp up its technical and administrative capacity. The new FABRI Operations Manager, Bethany Bluett, began working on May 28, 2012. FABRI is recruiting for a short-term Private Sector Development Specialist. Peter Reiss, FABRI chief of party, has also assumed the role of Africa Program Manager. It is currently recruiting an African Program Associate to support him.

Also in this period, FABRI issued a subcontract to ValuAdd for supporting the business planning in the Africa program. FABRI also issued two new task orders to the Training Resources Group (TRG) under their subcontract; Task Order #2 is for supporting the MENA NWC Governance Team, and Task Order #3 is for supporting the Africa Program. In addition, FABRI issued two purchase orders during this period; one to Malcolm Farley Associates for design of the non-revenue water program; and one to Oregon State University for consultation on transboundary water activities. FABRI received USAID consent to issue subcontracts to the University of Florida, UC/Davis, and the University of Nebraska.

In the coming period, FABRI plans to issue subcontracts to the University of Florida, UC/Davis, and the University of Nebraska. FABRI also plans to request USAID approval to hire Said Ouattar as an Independent Consultant to serve as a Senior Water Expert on the program.

4. ISSUES AND REMEDIES

Issue 1: Project requires more administrative support.

Remedy: It will recruit a new program associate to replace the current association who has decided to move internally within DAI. It will also recruit an associate for the Africa component of the project.

Issue 2: Project management has found that the five U.S. universities have not been responsive to requirements related to training and communications/knowledge management.

Remedy: It will seek more broadly to secure the required support from the private sector.

Issue 3: The Middle East program has suffered from implementation delays that require USAID approval. The result is the enthusiasm of the participating Centers has sometimes waned in MENA NWC.

Remedy: Project management needs to be in the Middle East more regularly – a minimum of every other months – in the region meeting with the Centers and other stakeholders.

5. STANDARDS AND DELIVERABLES SUBMITTED

Requirement	Standard or Deliverable	Date of Submission
1.1	<ul style="list-style-type: none"> Acceptance letter from Sultan Qaboos University and other Centers 	1/19/12 etc.
1.1	<ul style="list-style-type: none"> Workshop to launch implementation of MENA NWC 	12/5-8/11
1.4	<ul style="list-style-type: none"> List of candidates for Founders' Committee prepared 	2/21/12
1.4	<ul style="list-style-type: none"> CVs compiled for each candidate and shared with nominating committee 	2/21/12
2.1	<ul style="list-style-type: none"> Plan for strengthening legal and regulatory framework for IWRM in target countries 	3/14/12
2.2	<ul style="list-style-type: none"> Plan for evaluating and testing methodologies to promote efficient use of water resources 	3/14/12
3.1	<ul style="list-style-type: none"> Draft plan for strengthening capacity and performance of water and sanitation providers in AFR and MENA target countries 	In process
3.2	<ul style="list-style-type: none"> Draft plan for improving operating environment for water and sanitation providers in AFR and MENA target countries 	In process
4.1	<ul style="list-style-type: none"> Plan for conducting the identification and analysis provided within thirty 30 days after the award 	10/14/11
5.1	<ul style="list-style-type: none"> Plan for conducting the analysis provided within 30 days after award 	10/19/11
5.1	<ul style="list-style-type: none"> Assessment of transboundary water cooperation programs 	Delayed due to political turmoil
5.4	<ul style="list-style-type: none"> Pilot project design for transboundary water activity 	Delayed due to political turmoil
Section F.2(b) Deliverables	<ul style="list-style-type: none"> 90 day work plan completed within 30 days of Task Order award 	10/14/11
	<ul style="list-style-type: none"> First annual work plan completed and delivered within 60 days of task order award 	11/11/11
	<ul style="list-style-type: none"> Performance Monitoring Plan 	3/15/12
	<ul style="list-style-type: none"> Quarterly Progress Reports: first, second, and third quarters 	On schedule